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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,116	06/23/2003	Hanno Ulrich	DE920010077US1	9096

7590 03/30/2007  
Floyd A. Gonzalez  
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EXAMINER
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SHARON, AYAL I

ART UNIT	PAPER NUMBER
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2123

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/602,116

Applicant(s)

ULRICH, HANNO

Examiner

Ayal I. Sharon

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Introduction***

1. Claims 1-6 of U.S. Application 10/602,116 are currently pending.
2. The application claims priority to EPO application 02014506.6, filed on 06/29/2002.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: a definition of the variable " $v_n$ " used in the claimed equations.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 1-6 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

7. The fundamental test for patent eligibility is to determine whether the claimed invention produces a **“useful, concrete and tangible result.”**
8. The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” State Street, 149 F.3d at 1373-74. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of “real world” value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36 (1966)); In re Fisher, 421 F.3d 1365 (Fed. Cir. 2005); In re Ziegler, 992 F.2d 1197, 1200-03 (Fed. Cir. 1993)).
9. The test for practical application as applied by the examiner involves the determination of the following factors:
  - a. **“Useful”** – According to MPEP § 2106 (IV)(C)(2)(2)(a), the USPTO’s official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. MPEP § 2107 and In re Fisher, 421 F.3d at 1372 (citing the Utility Guidelines with approval for interpretation of “specific” and “substantial”). In addition, when the examiner has reason to believe that the claim is not for a practical application that produces a useful result, the claim should be rejected, thus requiring the applicant to distinguish the claim from the three 35 U.S.C. 101 judicial exceptions to patentable subject matter by specifically reciting in the claim the practical application.

b. **"Tangible"** - Applying In re Warmerdam, 33 F.3d 1354 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. § 101. In addition, According to MPEP § 2106 (IV)(C)(3), a claim that recites a computer that solely calculates a mathematical formula, or a computer disk that solely stores a mathematical formula, is not directed to the type of subject matter eligible for patent protection. Gottschalk v. Benson, 409 U.S. 63 (1972).

c. **"Concrete"** - According to MPEP § 2106 (IV)(C)(2)(2)(a), a claimed process must have a result that can be substantially repeatable, or the process must substantially produce the same result again. In re Swartz, 232 F.3d 862, 864 (Fed. Cir. 2000) (finding that an asserted result produced by the claimed invention is "irreproducible" claim should be rejected under section 101). The opposite of "concrete" is unrepeatable or unpredictable. An appropriate rejection under 35 U.S.C. § 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

10. An example of a concrete, useful, tangible result is provided in State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. ("[T]he transformation of data, representing discrete dollar amounts, by a machine through a series of

mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' – a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades").

11. Another example of a concrete, useful, tangible result is provided in AT&T, 172

F.3d at 1358, 50 USPQ2d at 1452 (Claims drawn to a long-distance telephone billing process containing mathematical algorithms were held patentable subject matter because the process used the algorithm to produce a useful, concrete, tangible result - a primary inter-exchange carrier ("PIC") indicator - without preempting other uses of the mathematical principle).

12. The claimed subject matter does not produce a useful or tangible result:

- a. A **"Useful"** result is missing because the claimed subject matter fails to sufficiently reflect at least one practical utility set forth in the descriptive portion of the specification. More specifically, while the described practical utilities are directed to central processor utilization or processing of work pieces such as cars in the car manufacturing industry (see paragraphs [0019] and [0052] in the specification, and pp.19-20 of the amendment filed 1/18/2007), the claims do not recite any result with a specific practical utility.
- b. A **"Tangible"** result is missing because the claimed subject matter fails to produce a result that is limited to having real world value rather than a

result that may be interpreted to be abstract, such as a thought, a computation, or manipulated data. More specifically, the claims recite "obtaining a resulting actual value" and "using the values obtained", but there is no recitation that the obtained value has any tangibility (such as by being displayed, stored, etc.) . This produced result remains in the abstract and, thus, fails to achieve the required status of having real world value. Moreover, the claims that recites a computer that solely calculates the mathematical formula, or a computer disk that solely stores a mathematical formula, are not directed to the type of subject matter eligible for patent protection.

13. Dependent claims 2, 4, and 6 appear to recite a specific practical utility, but it is not clear how they relate to the independent claims. The dependent claims recite that the "control quantities are central processor utilizations in a computer system model", however, it is not clear which of the parameters in the independent claims correspond to the "control quantities" claimed in the dependent claims.

### ***Response to Amendment***

#### **Re: Specification**

14. The amendments to the specification filed on 1/18/2007 are entered into the record. Examiner finds that these amendments correct typographical errors, and do not add any new matter.

Re: Claim Objections

15. Applicants have deleted the terms “6a” and “6b” next to the claimed formulas in Claim 1. The corresponding objections to the claims have been withdrawn.
16. The term “CP” has been replaced with “central processor” (as defined in paragraph [0004] of the specification) in Claims 2, 4, and 6. The corresponding objections to the claims have been withdrawn.

Re: Claim Rejections - 35 USC § 112

17. Applicants argue in p.19 of the amendment filed 1/18/2007 that Claims 1, 3, and 5 have been amended to claim parameter  $p_n$  as “an accumulated wait time divided by an accumulated processing time of the system. Examiner has withdrawn the rejections pertaining to this parameter.
18. Applicants argue in p.19 of the amendment filed 1/18/2007 that Claims 1, 3, and 5 claim parameters “x” and “u” as entry and target control quantities of a system model. Examiner has withdrawn the rejections pertaining to these parameters.
19. On the other hand, Examiner has retained the rejections based on the parameter “ $v_n$ ”. This parameter remains undefined in the claims. While Examiner agrees with Applicants’ argument in in p.19 of the amendment filed 1/18/2007 that “[i]t will be understood in the art that  $v_n$  ... refers to the values of th[is] parameter for an interaction n”, the parameter “v” itself remains undefined in the claims.
20. Applicants have amended claims 2, 4, and 6 to define the claimed term “utilization”. Examiner has withdrawn the corresponding rejections.



Re: Claim Rejections - 35 USC § 101

21. Examiner acknowledges that the amendments to the claims resolve issues pertaining to functional descriptive material. The corresponding rejections have been withdrawn.
22. However, the amendments to the claims do not overcome the issue of a lack of concrete, useful, tangible result.

**Conclusion**

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272 -3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a bi-week, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272 -3753.

Any response to this office action should be faxed to (571) 273 -8300, or mailed to:


USPTO  
P.O. Box 1450  
Alexandria, VA 22313 -1450

or hand carried to:

USPTO  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272 -2100.

Ayal I. Sharon  
Art Unit 2123  
March 26, 2007

  
PAUL RODRIGUEZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100  
3/27/07